

Understanding the Indoor Microbial World

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Biosketch: Dr. Paula J. Olsiewski joined the Alfred P. Sloan Foundation in 2000 and serves as Program Director of the Biosecurity and Indoor Environment (IE) programs. Dr. Olsiewski received her BS in Chemistry from Yale and PhD in Biological Chemistry from MIT. Prior to joining the Foundation, Dr. Olsiewski served in many capacities in the biotech and biomedical community. She directed the New York City Biotechnology Initiative – a state-funded program under the auspices of the New York Biotechnology Association – to improve the region's ability to grow biotechnology companies by fostering relationships between academia and industry. She established and directed the technology licensing office at the Hospital for Special Surgery, an affiliate of Weill Medical College at Cornell University. Dr. Olsiewski worked for nine years at Enzo Biochem, Inc., a publicly traded biotechnology company, where she directed commercial development activities for a variety of *in vitro* diagnostic products. Dr. Olsiewski also serves on numerous advisory committees and boards. She is an advisor to the National Consortium for the Study of Terrorism and Responses to Terrorism (START), a Center of Excellence of the U.S. Department of Homeland Security based at the University of Maryland. Dr. Olsiewski served on the NRC Committee on Advances in Technology and the Prevention of Their Application to Next Generation Biowarfare Threats which produced the "Globalization, Biosecurity, and the Future of Life Sciences" report in 2006. She was a member of the MIT Corporation (2003-2009) and President of the MIT Alumni Association (2003-2004).

Abstract: The goal of the Indoor Environment program is to understand the human indoor environment at the microbial level. We want to know the nature of the microbial organisms with which humans interact and understand how human activities and a built environment influence the indoor community of microbes, also known as the indoor microbiome. We would like to be able to recognize a healthy indoor microbiome and distinguish it from an undesirable one. Ultimately, we would like to provide near real-time monitoring of the "bio weather" and eventually predict it. Since the Indoor Environment program began in 2004, the Sloan Foundation has awarded ~\$12 million in grant support. Currently, we are supporting projects to explore and survey the microbial populations found in indoor environments and to develop tools and methods for collecting, sorting and identifying microbial populations. Over the next five years, we would like to reach the Foundation's goal of understanding the indoor microbial environment with a four part strategy: Scientific Research, Infrastructure & Community Building, Outreach & Education, and an Exit Strategy. The program will generate new scientific knowledge, provide standardized methods for exploration and analysis of the indoor microbial world, and create and foster the growth of an interdisciplinary indoor microbial environment community. The program will provide many new insights into the indoor microbial world and will explore some of the societal implications. Dr. Olsiewski will discuss the current activities and future directions of the IE program.